

# National culture diversity in new venture boards: The role of founders' relational demography

Chanchal Balachandran<sup>1</sup>  | Karl Wennberg<sup>2</sup> | Timur Uman<sup>3,4</sup> 

<sup>1</sup>Utrecht University School of Economics,  
Faculty of Law, Economics and Governance,  
Utrecht University, Utrecht, The Netherlands

<sup>2</sup>Institute for Analytical Sociology (IAS),  
Department of Management and Engineering,  
Linköping University, Norrköping, Sweden

<sup>3</sup>Jönköping International Business School,  
Jönköping University, Jönköping, Sweden

<sup>4</sup>Department of Business Administration,  
Kristianstad University, Kristianstad, Sweden

## Correspondence

Chanchal Balachandran, Utrecht University  
School of Economics, Faculty of Law,  
Economics and Governance, Utrecht  
University, 3584 EC Utrecht, The  
Netherlands.  
Email: c.balachandran@uu.nl

## Funding information

Jan Wallanders och Tom Hedelius Stiftelse  
samt Tore Browaldhs Stiftelse, Grant/Award  
Number: P2016-0246:1; Riksbankens  
Jubileumsfond, Grant/Award Numbers:  
M12-0301:1, M12-0301; Linköping  
University

## Abstract

**Research Summary:** This study explains the conditions under which new venture boards are less or more culturally diverse in terms of their directors' country of birth. Longitudinal data on 5,515 Swedish ventures suggest that most directors are recruited from founders' proximate social settings—neighborhoods in which they reside and past workplaces—and that diversity levels in these social settings strongly predict the national culture diversity in venture boards. Given the rapid internationalization of workplaces and regions around the world, this paper provides important clues regarding how culturally diverse upper echelons are being incorporated into the organizational design of new ventures.

**Managerial Summary:** Most New Venture Boards exhibit limited diversity in terms of their directors' country of birth, as they are drawn from the venture founders' network. Yet, some new venture boards are indeed born diverse. Our study reveals that founders with prior exposure to culturally diverse workplaces and residential neighborhoods are much more likely to design a culturally diverse board at founding. Given the rapid internationalization of workplaces and regions in most countries around the world, our paper provides important clues regarding how national culture diversity in top management emerges and is being incorporated into the organizational design of new ventures.

## KEY WORDS

board of directors, national culture diversity, new ventures

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## 1 | INTRODUCTION

The composition of a new venture's board is vital during its development and contributes to the organizational design of new ventures (Garg & Eisenhardt, 2017). Board composition represents an initial design element of new ventures by constraining or enabling the breadth of alternatives that founders consider in critical decisions regarding strategy formation, mentoring, management monitoring, and strategy execution (Beckman, Schoonhoven, Rottner, & Kim, 2014; Garg, 2013, 2014; Garg & Eisenhardt, 2017; Wasserman, 2012; Wasserman & Boeker, 2010).

This paper focuses on national culture diversity in new venture boards, a fundamental influence on the variety of cognitive schemas, knowledge, and unique experiences in the board (Hambrick, Davison, Snell, & Snow, 1998). Workgroup differences in national cultures can enhance the variety of problem-solving approaches and innovative solutions but can also be a source of intragroup conflict (Choudhury & Kim, 2019; Jang, 2017; Pelled, 1996). In new ventures, geographically diverse boards of directors bring diverse knowledge regarding the organizational design or strategy of, for example, alliances and portfolios (Beckman et al., 2014). Similarly, board diversity in terms of national culture may shape new ventures' organizational design by affecting initial governance and incentive structures, the formalization of organizational structure, and human resource practices (e.g. Colombo, Delmastro, & Rabbiosi, 2012; Colombo, Rossi-Lamastra, & Matassini, 2016; Miles, Snow, Meyer, & Coleman, 1978). By national culture diversity, we mean *diversity in the country group of birth* among board members, following central traditions in political science, sociology, and international business that depict national culture as a foundation for individuals' cultural distinctions and behavior (Hambrick et al., 1998; Hofstede, 1980; Inglehart, 1997).<sup>1</sup>

Although board diversity plays a role in the organizational design of new ventures during their inception and early development, board composition tends to reflect the founders' network ties.<sup>2</sup> Most founders may not consider the potential benefits of board national culture diversity, and may instead rely on their contacts to mobilize new board members during the founding process of a new venture (Aldrich & Kim, 2007; Ruef, 2010). According to the theory of relational demography, most founders recruit board members under "ecological constraints," defined by the socially and spatially proximate networks in which they are embedded (Ruef, Aldrich, & Carter, 2003, p. 203). Accordingly, we propose that founders tend to recruit people they are directly or indirectly affiliated with from past workplaces or their residential neighborhood, leading to initial boards that largely reflect the founders' relational demography.

We use data on all new incorporated ventures in Sweden between 2004 and 2008 matched with data on the demography and employment histories of founders and board members. Analyses of venture-level diversity show that the majority of new venture boards are populated by people from the founders' neighborhoods and workplaces, and that the national culture diversity of these social settings is a strong predictor of the national culture diversity of the new venture boards, given a large set of salient controls. Furthermore, analyses of potential and actual founder-director dyads based on founders' prior workplace networks suggest that this effect is driven partly by shared tenure and partly by the frequency of individual distinct national cultures in the founders' social (previous workplace) setting.

Our study contributes to research on the organizational design of new ventures by showing that the national culture makeup of a board—an important parameter in new ventures' organizational design (c.f. Frijns, Dodd, & Cimerova, 2016; Masulis, Wang, & Xie, 2012)—is, to a great extent, a manifestation of the founders' relational demography (Tsui, Egan, & O'Reilly, 1992). We also contribute to research on corporate governance in new ventures, which to date has mainly stressed how founders' supplementation of their ventures with knowledge and resources is a primary motivation for boardroom appointments (Garg & Furr, 2017; George, Robley Wood, & Khan, 2001). By highlighting the ecological constraints on new ventures' recruitment of board members, we show that the organizational design manifested in a venture board's national culture diversity is largely shaped by the founders' socially and

spatially proximate network ties, suggesting the need for nuanced theories in corporate governance in the context of new ventures.

## 2 | THEORY AND HYPOTHESES

### 2.1 | National culture diversity in venture boards

National culture diversity in boards of directors is part of a small but growing line of research on boardroom diversity (e.g., Frijns et al., 2016; Giannetti & Zhao, 2016). To date, this topic has been absent from research on new ventures, despite arguments that diversity in directors' backgrounds affects ventures' initial strategy formulation and may have lasting consequences for venture outcomes (Beckman & Burton, 2008; Beckman et al., 2014).

Research on the corporate governance of new ventures has demonstrated that board diversity is molded by characteristics of the firm's external environment as well as by the firm's strategic demands (e.g., Huse, 2008; Pearce & Zahra, 1992). While some studies have found that national culture diversity enhances decision quality in work groups, such as perspective taking and idea generation (e.g., Watson, Kumar, & Michaelsen, 1993), other studies have found that it is also related to communication difficulties and increased emotional conflicts (e.g., Pellet, 1996). For example, a recent study of the national culture diversity of boards in U.S. stock-listed firms, which used a similar country grouping as ours, found that firms with culturally diverse boards tend to be more innovative but exhibit volatile performance (Giannetti & Zhao, 2016). Venture boards' national culture diversity may thus have important implications since new ventures must find a balance between innovativeness and structural stability in their organizational design (Sine, Mitsuhashi, & Kirsch, 2006). While boards' national culture diversity may be useful for firms that seek to better understand a diverse customer base (Brammer, Millington, & Pavelin, 2007), provide access to specific markets (Li, Terjesen, & Umans, 2018), and enhance board perspective taking and idea generation (Jang, 2017; Watson et al., 1993), most new ventures may not prioritize such diversity.

The likely reason for the innovativeness of culturally diverse boards may be inferred from a more recent set of studies on innovation outcomes in firms, which look at the unique cultural knowledge migrants bring from their home country (e.g., Choudhury & Kim, 2019; Jang, 2017). Such studies point toward the importance of national culture diversity in the design of venture boards by expanding the breadth of strategic alternatives founders have access to while developing the venture.

Although the board diversity imperative may be a salient aspect for the organizational design of new ventures, boardroom recruitment is often based on network-based appointments, that is, a founder-manager's unilateral selection of directors from within her or his extended network (Lynall, Golden, & Hillman, 2003). Two main reasons for appointment to the board have been highlighted in the literature: (a) access to knowledge and resources (Mosakowski, 1998) and (b) trust in and effectiveness of decision-making (Garg & Eisenhardt, 2017). While the recruitment of diverse board members for the knowledge, resources, and trust they bring is an *ideal* that entrepreneurs may be aware of (Aldrich & Kim, 2007), we argue that the recruitment is executed under structural constraints; in particular, the environment in which founders reside and work.

### 2.2 | Relational demography in new venture board appointments

A perspective that offers different insights into the design of venture boards than those obtained through a study of corporate governance is based on relational demography (e.g., Ruef, 2010; Ruef, Bonikowski, & Aldrich, 2009): the "comparative demographic characteristics of members of dyads or groups who are in a position to engage in regular interaction" (Tsui et al., 1992, p. 403). This research depicts founders' social ties as "ecologically constrained" by their current situation in neighborhoods, clubs, and organizations (Ruef, 2010).<sup>3</sup> Due to such constraints, access to a diverse set of advisors and resource providers with whom entrepreneurs can form meaningful ties may in practice be quite uncommon. Relational demography rather suggests that founders search for board members within their

ecological constraints and tend to recruit people they know from, for example, their former workplace or place of residence (Aldrich & Kim, 2007). Constraints on founders' neighborhoods and organizational ties present challenges to diversity since both neighborhoods and organizations tend to be demographically segregated (Ruef, 2010).

Given the trend of network-based board member recruitment, strong homophilic tendencies could be expected among firm founders and board members (M. McPherson, Smith-Lovin, & Cook, 2001). However, the theoretical mechanisms posited by recruitment in ecologically constrained social settings differ from the processes of homophilic recruitment based on demographic characteristics, which tends to adopt behavioral arguments to explain managers' preference for recruiting similar others (Lynall et al., 2003). From an ecological perspective, preferential attachments need not be a driving mechanism: The only thing required for similar others to be recruited is for the social structures shaping founders' exposure to potential board members to be demographically segregated. Below, we extend the discussion on the role of the founder's relational demography in predicting how neighborhoods and prior workplaces shape new venture boards' national culture diversity.

## 2.3 | Founders' relational demography in neighborhoods

A long line of research has posited that the social structures in which organizations are embedded shape the internal demography of these organizations (e.g., Child, 1997; Granovetter, 1985). Stinchcombe's (1965) seminal work suggested that organizations absorb unique characteristics of their environment at founding, shaping the structure, strategy, or purpose of the organization. These environmental characteristics include similarity in organizational forms that are founded under the same circumstances (Carroll & Hannan, 2000); similarity in new ventures' structure and strategy (Baron, Burton, & Hannan, 1999); and similarities in new ventures' occupational structure (Cohen, 2013).

For new venture boards, these environmental characteristics can be viewed as the founders' social and network structures that shape the board's composition (Davis, Renzulli, & Aldrich, 2006). Unlike board formation in public corporations, new venture board members are largely selected by founders whose interpersonal ties are strongly determined by the social structures (cf. Garg, 2013) of their residential neighborhoods and past workplaces. More specifically, individuals seek and form affiliations with socially proximate others in neighborhoods (Huckfeldt, 1983) and workplaces (Åslund & Skans, 2010), which predominantly leads to tie formation with similar others (J. M. McPherson, Popielarz, & Drobnić, 1992). Social structures provide opportunities for frequent social interactions within geographic and organizational boundaries, which serve to develop trust and reciprocity in relationships (Ruef, 2010).

Founders select directors whom they trust, not simply in terms of knowledge and abilities, but also (and more so) in terms of their belief that those who are selected will not go against the founders' own interests (cf. Garg, 2013; Ruef, 2010). Such trust is commonly formed among those in the same social circles, often from the neighborhoods in which they reside (Aldrich & Martinez, 2001). For example, entrepreneurs frequently participate in various local volunteer activities and affiliate with local clubs, which help form their social ties (Davis et al., 2006). Hence, in a new venture setting, neighborhood affiliations provide social ties that can help individuals seek commonalities with different others (Ruef et al., 2009). We therefore predict that the neighborhoods in which founders reside shape their ecological boundaries of tie formation, such that higher national culture diversity in founders' neighborhoods is associated with higher board diversity in new ventures.

**Hypothesis (H1)** National culture diversity in new venture boards is positively associated with the national culture diversity of founders' residential neighborhoods.

## 2.4 | Founder relational demography in workplaces

Former workplaces represent a second type of ecological boundary within which founders search for potential board members. Much like neighborhoods, workplaces influence the formation of relational patterns important for organization founders (Stinchcombe, 1965). Numerous studies in sociology and geography have highlighted the critical role that formal work organizations play in bringing individuals of different national cultures into contact with each other (e.g., Ellis, Wright, & Parks, 2004; Rogers, 2002). While residential spaces tend to be segregated across minority groups, workplaces bring together employees from a broader section of society (Strömgren et al., 2014). For example, empirical accounts have shown that racial diversity in Chicago steel mills provided avenues for meaningful intergroup contact across otherwise impermeable social boundaries along the city's neighborhoods (Kornblum & Janowitz, 1974). In a more recent study, Ellis et al. (2004) found that urban geographies are much less segregated if mapped by places of work rather than by places of residence. These findings point toward the crucial role of workplaces in exposing entrepreneurs to potential board members with different national cultures.

As mentioned above, founders frequently rely on previous contacts when identifying and recruiting cofounders, managers, and board members for their new ventures (Aldrich & Zimmer, 1986), especially those gained from their own prior employment (Chen & Rider, 2015). Workplaces require employees to interact with each other based on the organization's task structure and other requirements (Reagans, Argote, & Brooks, 2005). These requirements are likely to be independent of employees' national cultures, causing workplaces to act as a "blender" of individuals from different regions in the world. Based on these arguments, we predict that diversity in national culture will be higher in new venture boards when the founder previously worked in a diverse workplace.

**Hypothesis (H2)** National culture diversity in new venture boards is positively associated with the national culture diversity of founders' previous workplaces.

## 2.5 | Micromechanisms of board director recruitment

Although the preceding hypotheses attended to the relational demography underlying founders' prior workplaces and neighborhoods, they do not permit an examination of the micromechanisms of interpersonal tie formation within those social settings (Hedström & Swedberg, 1998). We perform this examination through two related hypotheses that predict the likelihood of tie formation between individual founders and the board members appointed in their ventures, where we expect that a board's national culture diversity is partly driven by a *compositional effect* of the founder's social setting (H3a) and partly by a *relational effect* between founders and potential directors (H3b). The social setting could include neighborhoods, interest associations, previous workplace, etc., where founders make social ties (cf. Chen & Rider, 2015; Ruef, 2010). In developing our hypotheses, we focus on founders' previous workplaces as a salient representation of the social setting, given empirical and computational limitations of dyad calculations in wider settings such as neighborhood and interest associations.<sup>4</sup>

A first plausible explanation for the association between the national culture diversity in founders' previous workplaces and the diversity of their venture boards is a simple *compositional effect*—that is, the outcome of a random recruitment process operated within the boundary of founders' previous workplaces. The compositional effect assumes founders to be indifferent to recruiting directors from any demographic backgrounds, and that a random draw from the founders' previous workplaces could reproduce the results we expect. As a brief illustration, consider a Swedish founder's previous workplace comprised of 10 potential directors—eight born in Sweden and two born in Asia. The compositional effect suggests that the Swedish founder would be four times more likely to recruit a Sweden-born director than an Asia-born director. Now, suppose that the same Swedish founder's previous workplace is composed of six Sweden-born and four Asia-born potential directors. In this case, the Swedish founder is only 1.5 times more likely to recruit a Sweden-born director. This illustration applies to cases in which the founders are native; however, roughly 7% of founders in our context are foreign-born, and thus represent different national

cultures. The composition effect described above will thus be stronger when distinct cultural groups are represented in the founder's previous workplace since each cultural group is treated as distinct, rather than as a single category called "foreign-born."<sup>5</sup>

To sum up, the compositional effect of a founder's previous workplace for new venture board member recruitment can be understood as a situation in which founders are indifferent to the national cultures of potential directors. Under this assumption, founders are equally likely to recruit a director of any country of birth *if all groups are equally represented*, leading to the prediction:

**Hypothesis (H3a)** *New venture founders are more likely to recruit a board member of a different national culture the greater the number of culturally distinct dyads there are in previous workplaces in terms of national cultures.*

A second explanation for the association between the national culture diversity in founders' previous workplaces and the diversity of their venture boards is that boardroom appointments are partly a result of mutual trust between founders and directors, which we refer to as a *relational effect* (Li et al., 2018). Trusted relationships are developed through repeated contact. Exposure to different others is likely to reduce the effect of in-group favoritism and help one to see more differences among those to whom one is culturally similar, as well as greater similarity among those to whom one is culturally dissimilar (e.g., Sigelman & Welch, 1993).<sup>6</sup> Such processes are more likely to occur in long-lasting social settings, such as workplaces, rather than through casual meetings, since joint labor necessitates coordination and discussion, which involves mutual learning (Reagans et al., 2005). This suggests that the likelihood of a new venture founder recruiting a board member of a different national culture is greater if the founder and the potential director are similar in terms of their joint tenure in a previous workplace, compared with those with little or no tenure:

**Hypothesis (H3b)** *New venture founders are more likely to recruit a board member of a different national culture the longer their joint tenure in a previous workplace is.*

### 3 | DATA AND METHODS

#### 3.1 | Sample and research design

We used data on the entire labor market and boards of directors in Sweden between 2004 and 2008 to test our hypotheses. Sweden is a suitable context for our study since it is a small yet rapidly diversifying nation. The country's overall labor market and especially the managerial labor market remained highly homogenous in terms of executives' and directors' national culture until a few decades ago. Starting in the 1970s, Sweden experienced continuous waves of migration from different countries, making labor markets more diverse in terms of country of birth. However, this level of diversity differs widely across regions and organizations, ensuring sufficient variation to test the hypotheses proposed in this study.

The labor market data comes from the Longitudinal Integration Database for Health Insurance and Labor Market Studies (LISA) with information on employment affiliation, earnings, demographics (e.g., country of birth), family members, place of work and residence for all persons in Sweden above age 16. LISA was linked with the employment and business register (RAMS) for all firms in Sweden. Given the limited time window available, we adopted a cohort design by selecting all cohorts of newly incorporated ventures founded from 2005 to 2008 (see Online Appendix A3, Supporting information, for statistics on the distribution of ventures by industry and number of employees) where at least one of the founders was employed in the previous year, excluding ventures founded by full-time students or the unemployed.

Founders were identified through the employment status information “entrepreneurs in own business,” a mandatory part of their tax declarations. We matched this data with the Swedish Companies Registration Office data on all boards of directors. Directors were identified as individuals appointed to the board during firm registration or during the annual shareholder meeting, and as still serving on the board as of November 30 of each year. Directors were determined to include both executive and nonexecutive members but exclude founders. We excluded ventures where all the board members were immediate family members of the founders (i.e., spouse, parents, and siblings), since governance in family enterprises is distinct from that of other new ventures. We obtained a sample of 5,015 new ventures with 17,470 founders and 18,610 directors at the time of founding. As outlined in Table 1, the majority of new ventures (65.3%) have three or four founders, with only 155 ventures having sole founders.<sup>7</sup> The majority of ventures have three directors (58.9%).<sup>8</sup>

From this database, we prepared two samples: one at the firm level and the second at the founder–director dyad level. We employed firm-level data to test Hypotheses H1 and H2. In the firm data we first computed all variables used as dependent or control variables. We then identified founders' prior workplaces and their local neighborhood areas (parishes) in the previous year to compute the two independent variables (i.e., average across all cofounders) that were merged with the firm data. To test the underlying mechanisms proposed in H1 and H2, we reconstructed the venture-level data at the founder–director dyad level into a relational database, where the unit of observation was a dyad (defined as a potential relation between two individuals in a social setting) that involved all founders in our data and all others from their more salient social setting, the previous workplace. Unlike the test for H1 that included founders' neighborhood diversity, we test H3a and H3b solely on founders' former workplaces as salient social settings.

We created a dataset of founder–coworker dyads in their prior joint workplace in the year prior to founding, a subset of which (i.e., realized ties) were also observed when the venture was founded. The dyad dataset comprised all workers in the 39,849 workplaces with at least one employee who (co)founded a venture and at least one coworker who joined the board in the following year. After identifying workers who founded a venture, we dropped all dyads except those involving a venture (co)founder. The dyad dataset thus comprised all founders matched with all their former coworkers (see Online Appendix A4 for an example of dyad construction in a hypothetical workplace). We removed dyads in which firm founders were related by kinship (by marriage or blood) to a prior coworker. The resulting dataset comprised  $[N(E) - N(F)] \times N(F) \times N(W)$ , equaling 7,219,267 dyads, where  $N(E)$  is the number of total employees at the focal workplace in the year prior to founding,  $N(F)$  is the number of founders who worked at

<b>Number of firms with a given group size</b>				
<b>Group size</b>	<b>Founders</b>	<b>Percent</b>	<b>Directors</b>	<b>Percent</b>
1	155	3.1	—	—
2	755	15.0	—	—
3	2,070	41.3	2,956	59.0
4	1,204	24.0	1,190	23.7
5	503	10.0	521	10.4
6	184	3.7	203	4.0
7	76	1.5	70	1.4
8	34	0.7	41	0.8
9	14	0.3	16	0.3
10	9	0.2	9	0.2
>10	11	0.2	9	0.2
<i>n</i>	5,015	100	5,015	100

**TABLE 1** Distribution of founders and directors in new ventures, 2005–2008

the workplace in the year prior to founding, and  $N(W)$  is the total number of active workplaces in the year prior to founding. Finally, we dropped 375,228 dyads (5% of the sample) from the analysis because of missing information on the occupation or neighborhood of residence of either individual in the dyad.<sup>9</sup>

Our final sample for the dyad analysis consisted of 6,824,926 founder–potential board member dyads in the year prior to founding who were likely to appear as founder–board members in a new venture. In our sample, prior work contacts formed the largest single identifiable source of recruitment to boards (26.3%), whereas contacts from the neighborhood parish comprised 6.7%.<sup>10</sup> These figures are surprisingly high, given that we included only coworkers from the preceding year and used the smallest available geographic unit. We considered expanding the set of potential venture directors to everyone the founders worked with in the past; however, such a procedure would have massively scaled up the number of observations beyond what is computationally feasible. Focusing solely on founders' immediately preceding workplaces allowed us to measure the most causally proximate ties. Since we wanted to highlight the association between entrepreneurs' past experience in diverse workplaces and their venture boards in the dyad data, a lag structure of just 1 year ensured that other unobserved intervening influences were kept to a minimum.

## 3.2 | Firm-level variables

### 3.2.1 | Dependent variable

The dependent variable in the firm-level analysis is *national culture diversity* in new venture boards. Similar to Giannetti and Zhao's (2016) study of U.S. stock-listed firms, we measured national culture of board members using information on grouped country of birth.<sup>11</sup> Our measure follows traditions in international business, political science, and sociology, which depict national culture as a foundation for cultural distinctions and behaviors among individuals (e.g. Hambrick et al., 1998; Hofstede, 1980), shown to strongly predict variations in beliefs and thought processes in workgroups (e.g. Jang, 2017) and to be clustered in specific country groups (Inglehart, 1997). Using this data, we computed the Thiel entropy index as our diversity measure (Reardon & Firebaugh, 2002) using the equation:

$$E = \sum_{i=1}^j [P_i \log(1/P_i)], \text{ where } P_i \text{ is the proportion of individuals with the country grouping } i \text{ in the board.}$$

### 3.2.2 | Explanatory variables

The first explanatory variable in the firm-level analyses is (a) *national culture diversity in founders' neighborhood of residence*, which was measured as the Thiel entropy index of country-of-birth groupings among residents in the parish where founders reside. Parishes constitute the smallest administrative area in Sweden, with 10,684 residents on average and a geographic size of some two-digit square kilometers, signifying geographic proximity among residents. The second explanatory variable is (b) *national culture diversity in founders' prior workplace*, which was measured as the Thiel entropy index of country-of-birth groupings among employees in founders' prior workplaces. Whenever cofounders of a new venture resided in different neighborhoods or worked with different employers, we averaged the measure across all cofounders in the focal venture.<sup>12</sup>

### 3.2.3 | Controls

We controlled for a large set of firm- and individual-level conditions known to affect workplace mobility and entrepreneurship (e.g. Andersson & Klepper, 2013; Beckman & Burton, 2008). In the firm-level analysis, we controlled for the *logarithm of prior employer size*, measured as the number of employees; the *logarithm of board size*, measured as the number of board members; the *logarithm of total average income of board members*; the *number of founders*; the *founders' mean age*; the *proportion of founders with university education*; whether the founding team is *male dominant*;

the *mean labor force experience of the founders*; the *mean number of residential moves of founders*; if the venture has any *foreign ownership*; and *ethnic specialization* in the focal industry, measured as the proportion of firms in the focal industry owned by individuals with the same national culture as the founder of the focal firm. Since some regions may accommodate more ethnic minorities than others we control for *proportion of co-ethnic residents* in the municipality, measured as the proportion of residents with the same national culture as the founder. All models included dummies for the industry (SIC-2 equivalent) and year.

### 3.3 | Dyad-level variables

#### 3.3.1 | Dependent variable

The dependent variable used in the dyadic analyses is *coworker board appointment* in the founding year  $t$ ; this is a dummy variable that is coded "1" each time a focal dyad comprising a founder and a prior coworker at time  $t - 1$  is replicated in the new venture, with the former coworker assuming the role of a venture board member. Out of the total risk set of 6,824,926 dyads in 2004–2007, only 0.1% of dyads are replicated in the subsequent year of venture foundation.

#### 3.3.2 | Explanatory variables

Three explanatory variables are used in the workplace dyad analyses. First, *culturally dissimilar dyad* is a dummy variable that takes the value "0" when the country-region<sup>13</sup> of birth is identical for both individuals in the dyad, and "1" otherwise. For 18% of all dyads in the sample, the two individuals (a founder and a potential board member) are from different national country groups; 94% of all founders are born in Sweden.

Second, *number of culturally distinct dyads* in the focal workplace measures the prevalence of diversity in the workplace by counting the number of distinct dyad compositions among all founder-colleague dyads in the workplace, excluding the focal dyad. In our sample, the smallest workplace has only two employees, while the largest has 9,672 employees. The number of distinct dyads (i.e. dyads with a specific combination of country-group of birth for two individuals) ranges from 0 to 63, meaning that for "0" a workplace has only one distinct dyad composition, often when all employees are native born. For "1" there is at least one foreign-born individual in the workplace (in addition to the focal dyad).<sup>14</sup>

Third, *dyad workplace tenure similarity* captures shared experience in a social (work) setting. We first calculated the number of years a focal founder and coworker were observed to be working in the same workplace from 1990<sup>15</sup> until the year before venture founding and calculated the absolute difference between the two, which is a measure of dissimilarity. We subtracted this value from the maximum value observed across all dyads to derive a measure of similarity. A maximum similarity value of 17 means that a founder and a coworker have shared workplaces for an equal length of time, while the minimum value of 0 means that they have the lowest similarity among all dyads. Of all the workplaces in our sample, 84% have fewer than 50 employees, indicating that for the vast majority of workplaces, founders are likely to be in direct interpersonal contact with former workplace peers (Nanda & Sørensen, 2010).<sup>16</sup>

#### 3.3.3 | Controls

In the analysis of dyad replication, we used a number of theoretically salient founder, coworker, and workplace characteristics as controls for coworker board appointment: individuals' *age*, *experience in the focal industry*, *gender*, *university education*, and *log wage income* in their prior workplace; the *number of past residential moves* among founders and coworkers (as a proxy for social contacts); dummies for coworkers' occupation as a *manager* or *entrepreneur*; whether

coworkers' parent or partner is or was an entrepreneur; log size and age of the workplace; and a dummy variable indicating whether the workplace is located in a metropolitan area.

Finally, we added a dyad-level control for the similarity in number of years of Swedish residency between the founder and coworker, to control for the difference in acculturation across dyads. We calculated this measure as follows: For those born in Sweden, the number of years of Swedish residency is equal to their age; for those who immigrated to Sweden, their residency equals the number of years since their immigration. First, we calculated the number of years that each individual in the focal dyad had lived in Sweden.<sup>17</sup> Next, we took the absolute difference between them, which gave a value of 0 for the dyads in which both individuals have spent an equal amount of time in Sweden and a maximum difference for a dyad that involves a newly arrived immigrant and the longest resident. This measure would give a maximum for the *least similar* founder–coworker pairs. For ease of interpretation, given our expectation of a measure of *residency tenure similarity*, we subtracted the co-residency measure of a dyad from the maximum observed among all dyads in the data (equal to a maximum difference of 80 years). For example, if the founder and a director in a dyad have an equal length of residence (whether 5 or 50 years), the measure of *dyad years in Sweden similarity* takes the maximum observed value of 80. Likewise, if the difference is 80 years, then the similarity takes the value of 0. An average dyad has a similarity score of 16, where the minimum is 0 and maximum is 80.

### 3.4 | Analytical strategy

Our analytical strategy involves a combination of firm-level and dyad-level regressions, with the firm-level regressions testing whether (a) founders who reside in a diverse neighborhood in terms of national culture tend to create a more diverse board for their venture (H1); and (b) founders who previously worked in a diverse workplace in terms of national culture tend to create a more diverse board for their new venture (H2). The dyad-level regression tests the extent to which (c) founders tend to appoint a focal culturally dissimilar colleague when there are more other dissimilar colleagues in the workplace (H3a) and (d) joint tenure with a culturally dissimilar colleague increases founder's likelihood to appoint the focal colleague (H3b). While Hypotheses H1 and H2 examine the effect of relational demography on new venture boards' national culture diversity, Hypotheses H3 and H4 examine the potential mechanisms underlying founder(s)' recruitment from their workplace of those with a different national culture as stemming from either the compositional effect imposed by the boundaries of founder relational demography, or from the strength of the founder(s)' relationship with the director (i.e., relational effect).

We implemented the firm-level analysis using a generalized linear model framework with a logit specification (i.e., a fractional logistic regression), since our outcome variable is a fraction ranging from 0 to 1. For the dyad analysis, we performed logistic regression on the likelihood of dyad replication as a function of dyad composition. Due to the multilevel dependence between observations in the dyad data, we clustered the standard errors simultaneously at the dyad level and the workplace level. Our expectation was that the likelihood of coworker board appointment would be stronger in workplaces with more distinct dyad composition because founders have a greater number of dissimilar colleagues to choose from (H3a) and stronger with joint tenure of the focal founder and a potential director because of the opportunity to form stronger relationships (H3b).

## 4 | RESULTS

We first report some descriptive evidence that is relevant for the subsequent analysis. Table 1 shows the size distribution of founding teams and boards of directors in the 5,015 new Swedish ventures from the 2005 to 2008 cohorts, as per our sampling criteria. Most founding teams (65%) have two to four founders, and the typical size of a venture board is three or four directors, excluding founders (82.6%). Similar to earlier studies in Sweden (Andersson & Klepper, 2013) and elsewhere (e.g., Elfenbein, Hamilton, & Zenger, 2010), the majority of founders

come from small firms, which effectively puts a limit on the national culture diversity available in their prior workplace (Online Appendix A5). Table 2 shows the distribution of founders and directors by their country-of-birth groups. Roughly 93% of founders are born in Sweden, 3.7% are born in other Nordic countries or the European Union, and 1.6% are born in Asia. The distribution of directors follows identical patterns.

#### 4.1 | Firm level

Table 3 shows summary statistics of variables in the firm-level analyses. National culture diversity of new venture boards ranges from 0 to 0.60, with a maximum possible value of 1. The same measure ranges from 0 to 0.73 for

**TABLE 2** Distribution of region-of-birth groupings

Country groups	Founders	Percent	Directors	Percent
Sweden	16,303	93.3	17,313	93.0
Other in Scandinavia	345	2.0	374	2.0
European Union	299	1.7	326	1.8
Other in Europe	153	0.9	154	0.8
Africa	31	0.2	29	0.2
North America	37	0.2	37	0.2
South America	41	0.2	42	0.2
Asia	252	1.4	316	1.7
Oceania	3	0.02	5	0.03
Russia	6	0.03	14	0.08
Total	17,470	100	18,610	100

**TABLE 3** Descriptive statistics: Swedish new ventures, 2005–2008

	Mean	SD	Min	Max
1. Cultural diversity in board	0.052	0.111	0.000	0.602
2. Cultural diversity in founder's prior workplace	0.128	0.106	0.000	0.735
3. Cultural diversity in founder's neighborhood	0.260	0.095	0.016	0.738
4. Log prior workplace size	2.945	2.155	0.000	10.847
5. Log board size	1.527	0.202	1.386	2.773
6. Log average wage of board members	7.819	1.132	0.000	11.713
7. Number of founders	3.484	1.352	1.000	15.000
8. Mean age of founders	44.141	9.122	19.000	76.000
9. Proportion of founders with university education	0.320	0.332	0.000	1.000
10. Male-dominant team	0.850	0.357	0.000	1.000
11. Mean labor force experience of founders	5.985	3.081	1.000	19.000
12. Mean no. of residential moves of founders	0.135	0.253	0.000	3.000
13. Foreign-owned venture	0.003	0.056	0.000	1.000
14. Ethnic specialization in industry	0.141	0.113	0.000	1.000
15. Proportion of co-ethnics in municipality	0.001	0.007	0.000	0.103
Observations	5,015			

founders' prior workplace and from 0.02 to 0.74 for founders' neighborhood. On average, founders' prior workplaces had 20 employees and their current boards have five members, including the founder(s). Only 0.3% of the ventures in the sample have any foreign ownership, and roughly 15% of the ventures have more female founders than male founders.

Table 4 provides the results of the firm-level fractional logit models for national culture diversity in new venture boards. A baseline model (a) with control variables is shown in column 1, followed by Models 2 and 3, which

**TABLE 4** Fractional logit models on national culture diversity in Swedish new venture boards, 2005–2008

	(1) $(\partial y / \partial x)$	(2) $(\partial y / \partial x)$	(3) $(\partial y / \partial x)$
Cultural diversity in neighborhood ( $t - 1$ )	—	0.176** (0.023)	0.077** (0.021)
Cultural diversity in prior workplace	—	—	0.285** (0.015)
Log prior workplace size	-0.000 (0.001)	0.000 (0.001)	-0.004** (0.001)
Log board size	0.082** (0.012)	0.083** (0.011)	0.081** (0.010)
Number of founders	-0.002 (0.002)	-0.002 (0.002)	-0.000 (0.002)
Ethnic specialization in industry	0.010 (0.032)	0.013 (0.034)	0.041 (0.031)
% Co-ethnic in municipality	1.386** (0.217)	1.024** (0.226)	0.672** (0.169)
Log average wage of board members	-0.005** (0.002)	-0.005** (0.001)	-0.002 (0.001)
Average age of founders	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
% Founders with university education	-0.006 (0.006)	-0.008 (0.006)	-0.005 (0.006)
No. of residential moves of founder	0.006 (0.010)	0.004 (0.010)	0.001 (0.010)
Foreign owned	0.081** (0.024)	0.083** (0.024)	0.058* (0.025)
Male-dominant team	-0.018** (0.006)	-0.019** (0.005)	-0.014** (0.005)
Log-likelihood ratio	-1,423.88	-1,420.69	-1,392.76
AIC	0.59	0.59	0.58
BIC	-40,992.42	-40,990.28	-41,037.62
<i>n</i>	5,015	5,015	5,015

Abbreviations: AIC, Akaike information criterion; BIC, Bayesian information criteria.

Note: Standard errors of marginal effects clustered at the venture level. Models include dummies for year and industry.

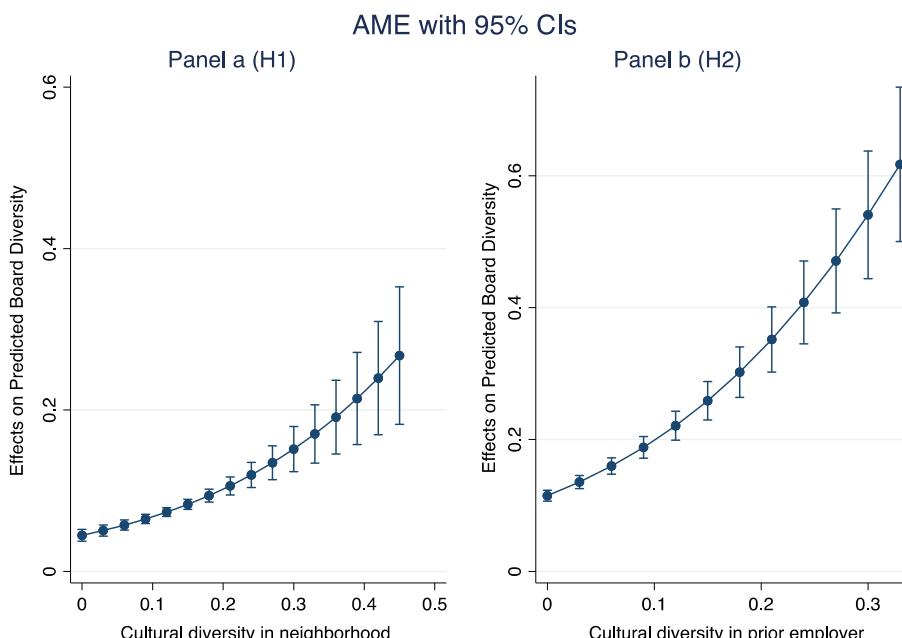
\* $p < .05$ ; \*\* $p < .01$ .

introduce our explanatory variables in order to gauge Hypotheses H1 and H2. In Model 1, three control variables are noteworthy: Male-dominant founding teams tend to have boards with lower national culture diversity, and ventures part-owned by a foreign entity tend to have more diverse boards. Moreover, boards with non-Swedish founder(s) exhibit 1.4% higher national culture diversity when the proportion of co-ethnics in the venture's local municipality is 1% higher.

Models 2 and 3 report the average marginal effect estimates predicting the national culture diversity of new venture boards as a function of (a) cultural diversity in the founder's neighborhood in the previous year, and (b) cultural diversity of the founder's prior employer. Figure 1 plots the effects over the range of entropy measure. Interpreting the results from Panel (a) in Figure 1, we see that a 1 SD increase (approx. 0.1) in neighborhood entropy index from its mean value (0.26) is associated with an increase of 0.06 in venture board entropy. That corresponds to approximately a 46% increase in the predicted board diversity. This finding provides support for H1. Consistent with this result, in Model 3, the coefficient of neighborhood diversity drops to 0.08 when our second independent variable is entered—national culture diversity in the founder's prior workplace. Panel (b) in Figure 1 indicates that a 1 SD increase (approx. 0.1) in the founders' prior workplace entropy index from its mean value (0.128) is associated with an increase of 0.17 in the predicted board diversity. This roughly corresponds to a 74% increase in venture board entropy. Thus, we also find support for H2.

## 4.2 | Dyad level

Table 5 shows summary statistics of variables in the dyad-level analyses. Roughly 28% of founders are women, and the founders' average age is 45 years. More than half of the founders in the sample are university educated, and their average wage was SEK 436,773 in the year prior to founding their venture. The average coworker in the dyads, on the other hand, earned SEK 284,978 in the year prior to venture founding, and 42% are university educated.



**FIGURE 1** Marginal effects of national culture diversity in founders' neighborhoods and prior workplaces on new venture board national culture diversity

**TABLE 5** Descriptive statistics of workplace dyads, 2004–2007

	Mean	SD	Min	Max
Coworker board appointment at time $t$	0.001	0.034	0.000	1.000
Dyad characteristics				
Culturally dissimilar dyad	0.188	0.391	0.000	1.000
Number of culturally distinct dyads	12.030	9.495	0.000	63.000
Dyad workplace tenure similarity	12.825	4.340	0.000	17.000
Dyad years in Sweden similarity	63.833	12.757	0.000	80.000
Founder characteristics				
Experience in focal industry	5.965	4.618	1.000	19.000
Female	0.282	0.450	0.000	1.000
Age	45.236	10.417	18.000	83.000
University educated	0.583	0.493	0.000	1.000
No. of residential moves	0.130	0.363	0.000	4.000
Log wage income	8.382	0.827	0.000	12.508
Coworker characteristics				
Experience in focal industry	6.431	4.827	1.000	19.000
Age	42.264	11.459	16.000	84.000
University educated	0.427	0.495	0.000	1.000
No. of residential moves	0.155	0.406	0.000	7.000
Log wage income	7.955	0.699	0.000	12.595
Manager	0.064	0.244	0.000	1.000
Previously an entrepreneur	0.050	0.218	0.000	1.000
Parent is/was an entrepreneur	0.055	0.228	0.000	1.000
Partner is/was an entrepreneur	0.042	0.201	0.000	1.000
Female	0.458	0.498	0.000	1.000
Workplace characteristics				
Workplace located in metropolis	0.399	0.490	0.000	1.000
Workplace age	7.371	5.316	1.000	18.000
Log workplace size	6.780	1.720	0.693	9.177
Observations	6,824,926			

Around 46% of coworkers are women, and the average age of a coworker is 42 years. Roughly 40% of prior workplaces in the dyad analyses are located in a metropolitan area (i.e., Stockholm, Gothenburg, or Malmö).

Table 6 shows the results of a logit model predicting director-founder dyad replication in new ventures.<sup>18</sup> The baseline coefficients in Model 4 suggest that the likelihood of dyad replication—that is, becoming a director—tends to be highest for male coworkers who held higher ranking jobs than that of founders at their former workplace. For example, female founders are 10% less likely than male founders to appoint a colleague to their board ( $\beta = -.181$ ,  $p > .001$ ), whereas female coworkers are 30% less likely than males to join the board of a colleague who founded a venture the following year ( $\beta = -.626$ ,  $p > .001$ ). Founders' income from their prior employment is positively associated with dyad replication: Founders whose income level is double than that of mean income in the focal workplace are associated with a 10% higher probability of appointing a colleague to their board (an 'e'-fold<sup>19</sup> higher income than mean is associated with a 14% higher probability). An important observation is that coworkers with managerial

**TABLE 6** Logistic regression predicting coworker board appointment

	(4)	(5)	(6)	(7)	(8)	(9)
<b>Dyad characteristics</b>						
Culturally dissimilar dyad (A)	—	-0.024 (0.043)	-0.133** (0.043)	-0.154*** (0.043)	-0.293*** (0.050)	-1.052*** (0.276)
No. of culturally distinct dyads (B)	—	—	0.061*** (0.002)	0.063*** (0.002)	0.058*** (0.003)	0.058*** (0.003)
Dyad workplace tenure similarity (C)	—	—	—	0.120*** (0.005)	0.120*** (0.005)	0.116*** (0.005)
A × B (H3a)	—	—	—	—	0.023*** (0.004)	0.023*** (0.004)
A × C (H3b)	—	—	—	—	—	0.051** (0.018)
Dyad years in Sweden similarity	0.027*** (0.001)	0.027*** (0.001)	0.027*** (0.001)	0.023*** (0.001)	0.023*** (0.001)	0.023*** (0.001)
<b>Founder characteristics</b>						
Experience in focal industry	0.034*** (0.003)	0.034*** (0.003)	0.032*** (0.003)	0.034*** (0.003)	0.035*** (0.003)	0.035*** (0.003)
Female	-0.181*** (0.038)	-0.181*** (0.038)	-0.205*** (0.038)	-0.207*** (0.039)	-0.205*** (0.039)	-0.205*** (0.039)
Age	0.002 (0.001)	0.002 (0.001)	0.003* (0.001)	0.005** (0.001)	0.005** (0.001)	0.005** (0.001)
University education	-0.117*** (0.032)	-0.117*** (0.032)	-0.119*** (0.032)	-0.121*** (0.033)	-0.120*** (0.033)	-0.121*** (0.033)
No. of residential moves	-0.120** (0.037)	-0.120** (0.037)	-0.111** (0.037)	-0.105** (0.037)	-0.104** (0.037)	-0.105** (0.037)
Log wage income	0.289*** (0.018)	0.289*** (0.018)	0.286*** (0.017)	0.269*** (0.017)	0.269*** (0.017)	0.269*** (0.017)
<b>Coworker characteristics</b>						
Coworker is female	-0.626*** (0.039)	-0.626*** (0.039)	-0.632*** (0.039)	-0.631*** (0.039)	-0.632*** (0.039)	-0.631*** (0.039)
Experience in focal industry	0.021*** (0.003)	0.021*** (0.003)	0.021*** (0.003)	0.023*** (0.003)	0.024*** (0.003)	0.024*** (0.003)
Age	0.018*** (0.001)	0.018*** (0.001)	0.018*** (0.001)	0.019*** (0.001)	0.019*** (0.001)	0.019*** (0.001)
University education	-0.059 (0.034)	-0.058 (0.034)	-0.059 (0.034)	-0.066 (0.034)	-0.065 (0.034)	-0.066 (0.034)
No. of residential moves	-0.143*** (0.036)	-0.143*** (0.036)	-0.148*** (0.037)	-0.143*** (0.037)	-0.142*** (0.037)	-0.143*** (0.037)

(Continues)

**TABLE 6** (Continued)

	(4)	(5)	(6)	(7)	(8)	(9)
Log wage income	0.412*** (0.026)	0.412*** (0.026)	0.423*** (0.026)	0.418*** (0.026)	0.418*** (0.026)	0.418*** (0.026)
Manager	3.046*** (0.309)	3.046*** (0.309)	2.983*** (0.312)	3.008*** (0.313)	3.005*** (0.313)	3.007*** (0.313)
Previously an entrepreneur	0.172** (0.066)	0.171** (0.066)	0.175** (0.066)	0.173** (0.067)	0.174** (0.067)	0.174** (0.067)
Parent is/was an entrepreneur	0.074 (0.056)	0.074 (0.056)	0.076 (0.056)	0.074 (0.057)	0.074 (0.057)	0.074 (0.057)
Partner is/was an entrepreneur	-0.024 (0.072)	-0.024 (0.072)	-0.017 (0.073)	-0.018 (0.073)	-0.018 (0.073)	-0.018 (0.073)
Workplace characteristics						
Metropolitan workplace	-0.490*** (0.037)	-0.490*** (0.037)	-0.442*** (0.037)	-0.437*** (0.037)	-0.443*** (0.037)	-0.442*** (0.037)
Workplace age	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	0.007* (0.003)	0.007* (0.003)	0.007* (0.003)
Log workplace size	-1.094*** (0.010)	-1.093*** (0.010)	-1.244*** (0.011)	-1.246*** (0.011)	-1.241*** (0.011)	-1.241*** (0.011)
Observations	6,824,926	6,824,926	6,824,926	6,824,926	6,824,926	6,824,926
Pseudo R <sup>2</sup>	0.406	0.406	0.410	0.419	0.420	0.420

Note: SE clustered at the dyad and workplace levels. Models include fixed effects for founder/coworker occupation and disciplinary background, year, municipality, and industry.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

responsibilities in their former joint workplace are 21 times more likely to join the board of a colleague's venture than nonmanagers. This finding is consistent with anecdotal evidence gathered from informal interviews with key informants (e.g., venture capital investors and serial entrepreneurs), who reported that it is not uncommon for founders to invite their previous bosses or managerial colleagues to be board members. Coworkers with prior entrepreneurial experience, on the other hand, are only 8% more likely than other coworkers to be appointed on a new venture board ( $\beta = .172$ ,  $p > .01$ ). Finally, we note that founders whose former workplace is twice as large as the mean workplace size in the sample are 37% less likely to appoint a colleague to their board (an "e"-fold larger workplace than mean is associated with a 50% lower probability), indicating that founders are much more likely to invite coworkers to their venture boards when they previously worked together in smaller firms (see Nanda & Sørensen, 2010, for similar evidence on the individual level). Finally, when founders are similar to coworkers in terms of Swedish residency by 1 SD above its mean value, the likelihood of coworker board appointment is higher by 17% compared to when the similarity is held at its mean. This result is important for interpreting the main independent variables, since we account for the influence of shared cultural experience of the individuals in the dyad.

We probe the firm-level results presented in Table 4 by testing Hypotheses H3a and H3b, which are intended to tease apart two potential explanations for the patterns observed in the firm-level analysis. Specifically, H3a tests whether a culturally dissimilar dyad's likelihood of replication is higher when there are more *distinct* and *culturally dissimilar* dyads in the focal workplace. The expectation here is that founders will be more likely to appoint a dissimilar coworker to their boards when there are a greater number of distinct and dissimilar colleagues in the founder's

former workplace, due to the expanded boundaries of the founders' relational demography. H3b, on the other hand, tests whether dyads that are dissimilar in terms of the individuals' national culture will have a higher chance of being replicated when the dyads are more similar in terms of joint tenure in the workplace. The expectation is that culturally dissimilar dyads with higher joint tenure similarity will have higher trust and stronger mutual relation, resulting in a higher likelihood of replication.

Table 6 contains a host of control variables at the founder, coworker, and workplace levels estimated first in the baseline Model 4. Our interest is in the dyad characteristics affecting the likelihood of dyad replication—that is, an individual being appointed director in a venture founded by a former coworker (now a founder). Model 5 in Table 6 suggests that dyads that are dissimilar in terms of national culture are no more or less likely to be replicated, when the number of years that both individuals in the dyad have lived in Sweden is controlled for. However, as reported in Model 6, culturally dissimilar dyads are less likely to be replicated once the number of culturally distinct dyads in the workplace is controlled for, potentially due to the effects of homophily. Model 7 in Table 6 introduces dyad workplace tenure similarity and shows that when founders are similar to coworkers in terms of tenure similarity by 1 SD above its mean value, the probability of coworker board appointment (i.e., any coworker, independent of country of birth) is higher by 25.8% compared to when the similarity is held at its mean.

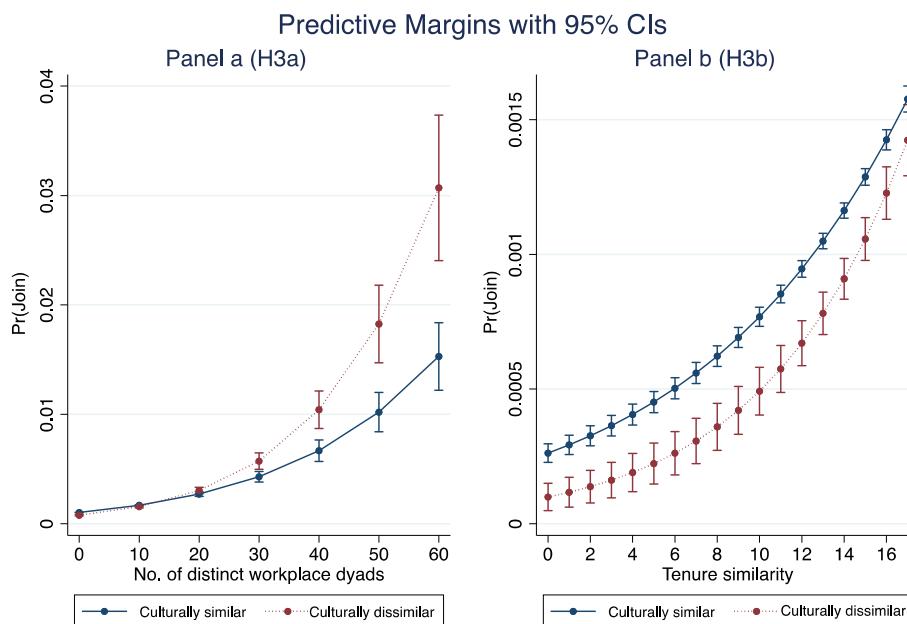
Hypothesis H3a is tested by interacting the variables *culturally dissimilar dyad* and *number of culturally distinct dyads* in the workplace in Model 8. Although founders are 7% less likely to appoint a culturally different coworker to their board than a culturally similar coworker when the *number of culturally distinct dyads* is 1 (excluding focal dyad) as suggested by the coefficient of A ( $\beta = -.293, p > .001$ ), the interaction coefficient A  $\times$  B ( $\beta = .023, p > .001$ ) suggests that this negative effect is moderated to 5% when the *number of culturally distinct dyads* is observed at its mean value. Panel (a) in Figure 2 shows that the negative effect of culturally dissimilar dyad is reversed at 1 SD above the mean (i.e., 20). This supports the notion of compositional constraints (H3a).

In order to test H3b, we interact *dyad workplace tenure similarity* with the variable *culturally dissimilar dyad replication* in Model 9—that is, that the likelihood of dyad replication will be higher when the individuals in the dyads are more similar in terms of joint tenure in the focal workplace. Although founders are 48% less likely to appoint a culturally different coworker to their board than a culturally similar coworker when their tenure similarity is held at minimum among all dyads ( $\beta = -1.052, p > .001$ ), the interaction coefficient A  $\times$  C ( $\beta = .051, p > .01$ ) shows that this negative effect is 29% at the mean value of tenure similarity, which supports H3b. Panel (b) in Figure 2 illustrates this graphically by comparing the probability of culturally dissimilar dyad replication to that of culturally similar dyad replication.<sup>20</sup> Experience working with others of different national cultures thus seems to enhance founders' likelihood of recruiting individuals of different national culture to their board. This finding supports our expectation that part of the correlation between a founder's prior workplace diversity and the diversity in his or her venture boards can likely be explained by a relational effect.

Overall, both the compositional effect of a more diverse pool of potential directors (H3a) and the relational effect of joint work experience of founders and coworkers (H3b) seem to explain the results we observed at the venture level, meaning that we cannot reject either of the two explanatory mechanisms of founder–director tie formation in the workplace setting.

#### 4.3 | Robustness tests

We conducted a series of robustness tests to ensure the veracity of our results. First, there is the possibility that individuals might identify with their parents' national culture, making their own country of birth an invalid measure of national culture. To gauge the likelihood of such a pattern affecting our results, we recoded individuals' country of birth as their parents' country of birth and repeated the analysis. The results (available in the Online Appendix A1) were identical to those reported in our main analysis, which rules out the possibility that such measurement errors might bias our results.



**FIGURE 2** Marginal effects of coworker board appointment in dyad-level analysis

Second, it is possible that the appointment of a director who is dissimilar from a founder in terms of national culture is spuriously correlated with national culture diversity in the founder's previous workplace. This could happen when founders self-select into workplaces that are more diverse in terms of national culture due to their affinity for interacting with people from different national cultures. In that case, the effect of working in a diverse workplace might be confounded with strong self-selection. To alleviate this concern, we conducted a test seeking to control for the underlying propensity of being open to other national cultures. Specifically, we control for whether the founder has a spouse of a different national culture, which might imply that the founders are already open to intercultural encounters. Although having a spouse of a different national culture is associated with a 4% higher probability that the founder will appoint a director of different national culture from his or her prior workplace (results available in the Online Appendix A2), when all other factors in the model are held constant, our main finding for the effect of prior workplace diversity remains robust.

Taken together, the results from our tests to disentangle the two explanations underlying the appointment of culturally diverse boards—namely, the compositional effect of founders' previous workplaces and the relational effect of founders' similarity to the director in terms of joint tenure in a previous workplace—suggest that both explanations are relevant.

## 5 | DISCUSSION AND CONCLUSION

With this study, we set out to explain how proximity to diversity in social settings may alleviate the ecological constraints challenging new ventures' recruitment of board members, with a focus on diversity in national culture. We developed theoretical arguments from the relational demography perspective on entrepreneurial groups and posited two complementary hypotheses emphasizing the influence of national culture diversity in founders' local neighborhoods and past workplaces on their recruitment and selection of board members. Our analysis of new venture boards' national culture diversity shows strong support for both hypotheses. To distinguish whether these effects are driven by a compositional effect whereby founders with more diverse networks are more likely to pick directors

of different national cultures due to accessibility or by the creation of relational ties through founders' and directors' joint tenure in previous workplace, we constructed a dyad-level dataset of all founders and their prior workplace colleagues in order to track joint workplace tenure. Analyses of dyad dissimilarity—the likelihood of founders recruiting board members of a different national culture—revealed the presence of both mechanisms.

### 5.1 | Contributions to entrepreneurship and organization research

Our paper offers contributions to the research on organizational design of new ventures by focusing on the board composition as an important organizational design parameter, theorizing on and testing how firm founders' relational demography—specifically their embeddedness in the local neighborhood and their former workplaces—shapes the national culture diversity of new venture boards. By highlighting the ecological constraints that make new venture boards more or less diverse in terms of national culture, our research provides a novel empirical test of Stinchcombe's (1965) seminal work on how neighborhood characteristics form the material and immaterial templates of new organizations, and empirically shows how these characteristics come into play in shaping the organizational design of new ventures. Our study further connects new ventures' early upper-echelon composition in terms of their initial board of directors to ventures' geographical and organizational founding conditions by attending to the genesis of—rather than the effects of—social ties in new venture founding (Aldrich & Kim, 2007; Boeker, 1988). To the best of our knowledge, the paper is the first to show how prefounding conditions related to founders' neighborhood and workplace ties shape the board composition of their firms, highlighting the limitations of founders' access to ideal resource providers (Mosakowski, 1998).

Our findings also carry implications for the theory of organizational imprinting, which posits that founding conditions and new ventures' initial upper-echelon composition are expected to persist over time (Baron, Hannan, & Burton, 1999; Beckman & Burton, 2008; Colombo & Piva, 2012; Lynall et al., 2003) and are bound to be reflected in the organizational design of new ventures (Ambos & Birkinshaw, 2010). Most of the work on imprinting has emphasized new ventures' top management teams (e.g., Beckman & Burton, 2008) or firm founders' demographic characteristics or personality (Colombo & Piva, 2012; Gruber, 2010; Leung, Foo, & Chaturvedi, 2013), and did not consider the imprinting aspects of founder ecological constraints on organizational design that board composition represents. Future research may expand upon how founders' relational demography affects organizational imprinting by incorporating the imprinting effect of, for example, the broader social networks in which founders are embedded (Ahuja, Soda, & Zaheer, 2012).

### 5.2 | Contributions to corporate governance research

Our second contribution is to corporate governance research, which is just beginning to explore new ventures (see e.g., Garg & Furr, 2017; Li et al., 2018). Existing studies, which are often based on small samples, have argued that new venture board members are selected based on owner-managers' motivations to gain knowledge and resources to assist their ventures (e.g., Borch & Huse, 1993; Garg & Eisenhardt, 2017; George et al., 2001). Our paper suggests that the ecological constraints in founders' social ties formed in neighborhood and organizational settings represent an alternative explanation for how initial boardroom appointments in new ventures (which are more resource constrained than in large firms) are made, highlighting the uniqueness of new ventures' corporate governance processes in comparison with those of large established firms.

### 5.3 | Managerial and policy implications

The predominance of ecological constraints in new ventures' board recruitment also provides insights for practitioners and policymakers interested in boardroom diversity. The literature on corporate governance has focused on explaining diversity in the boards of large and stock-listed firms, with a focus on affirmative action plans and quotas

implemented by organizations and authorities (Terjesen, Aguilera, & Lorenz, 2015). If recruitment to new venture boards helps to explain the persistent homogeneity in established firms, the role of firm founders' relational demography becomes salient in explanations of boardroom diversity. In post hoc tests we examined changes in boards of directors during the first 5 years of ventures' lifespans and found quite remarkable stability. It appears that the directors who are initially appointed tend to remain. As a result, changes in governance requirements for larger firms may not be significant enough to impact the overall diversity in organizations' upper-echelon positions if new firms gradually replace older firms (Sørensen, 2004).

## 5.4 | Limitations and future research

Our paper also comes with limitations that offer avenues for future research. First, although the two recruitment pools represented by founders' prior workplaces and neighborhoods represent a third<sup>21</sup> of all directors recruited to Swedish new ventures, founders' social networks naturally include other important weak ties such as friends, industry contacts, and contacts from schools (Kogut, 2012; Larson, 1992; Stuart & Sorenson, 2005). While these aspects are beyond the scope of our study, future research may be able to inductively build more nuanced models of director recruitments in new ventures using primary data on founders' ego-centric networks (Greve, 1995).

Second, our analyses of the relational effect of board member recruitment were indirectly inferred based on joint as well as latest workplace tenure among founders and potential board members. While studies investigating the selection of in-group and out-group members into work groups suggest that tenure is a central factor in increasing the probability of selecting dissimilar others into groups (Zander, Mockaitis, & Butler, 2012), the exact nature of exposure to those of different national cultures in past as well as multiple workplaces is difficult to capture with archival data. Future research could seek to distinguish between founders' positive and negative experiences from diverse workgroups and the associated implications for recruiting members for upper echelons of new ventures.

Finally, our study adopts national culture diversity as a proxy for cultural diversity. While national culture has been shown to be an instrumental and reliable tool in measuring cultural differences in management (Hambrick et al., 1998) as well as in cross-cultural studies (Hofstede, 1980; Inglehart, 1997), the potential to use other proxies such as ethnicity and native language to study cultural diversity in new ventures should not be disregarded. Our adaptation of the clustered regional format in measuring cultural distinctiveness has been used in other studies of boardroom diversity (e.g., Giannetti & Zhao, 2016) and we acknowledge the simplifying assumptions of national state identities and institutional settings through which these identities are created (Crossland & Hambrick, 2007). Future studies may provide more nuanced understanding of the cultural makeup of new venture boards by, for example, relying on survey data or observations of boards' communication and behavior.

## ACKNOWLEDGEMENTS

We are grateful for comments from the SEJ special issue editors and the three reviewers, Michael Dahl, Lars Fredriksen, Peter Hedström, Jane Walerud and seminar participants at the 2016 Danish Entrepreneurship Network meeting, the Institute for Analytical Sociology at Linköping University, the 2017 Academy of Management Meeting in Atlanta, and the 2017 European Consortium for Sociological Research's meeting in Milan. Esam Abdul Quddous provided helpful research assistance. K.W.'s research was financially supported by a fellowship from the Royal Swedish Academy of Letters as well as Riksbankens Jubileumsfond (M12-0301:1). T.U.'s and C.B.'s research was financially supported by Handelsbanken Research Foundations (P2016-0246:1). C.B. gratefully acknowledges fellowship from Institute for Futures Studies, Stockholm, during part of the research. All errors remain those of the authors.

## ENDNOTES

- <sup>1</sup> National culture shapes individuals' perceptions and behavior through both informal and formal institutions as noted by, for example, Hofstede (1980) and North (1990). See Section 3 for a more in-depth discussion and validation of this empirical measure of cultural diversity.
- <sup>2</sup> For maturing ventures that receive external investments, board members increasingly represent external owners such as venture capital companies (e.g., Garg, 2013; Kaplan, Sensoy, & Strömberg, 2009).
- <sup>3</sup> Ecological constraints are akin to Blau's (1977) famous theory of "structural constraints" as determining the variety of intergroup associations in society, but with a key focus on physical proximity.
- <sup>4</sup> Since dyad models of neighborhood contacts would contain thousands of neighborhoods and tens of thousands of potential directors in each neighborhood, the number of dyads becomes too many to estimate choice models, given current computing resources.
- <sup>5</sup> As argued, different cultural groups embody distinct cultural values. See "Data and Methods" for a more in-depth discussion.
- <sup>6</sup> Naturally, not all contacts with dissimilar others are positive, and one or several conditions must usually be met for the contact to result in a positive experience; these include common goals, intergroup cooperation, and support from authorities/superiors (Pettigrew, 1998).
- <sup>7</sup> While the distribution of sole-founded ventures in the initial database was similar to representative samples from other countries, for example, in the United States (e.g., Ruef, 2010), limiting our sample to incorporated ventures with nonfamily board members eliminated most of the sole-founder ventures.
- <sup>8</sup> The Swedish board structure follows the Anglo-Saxon one-tier system in which management and supervisory tasks of the board are united in one legal body. Board members are ultimately responsible for management of the firm's resources, ensuring adequate bookkeeping and administration of company affairs. There are no requirements with respect to the adoption of external directors or for the separation of CEO and board chair positions. The minimum number of board members required for incorporated firms in Sweden is two.
- <sup>9</sup> In our econometric models, an additional 2% of observations were omitted because the outcome variable did not change within one of the fixed-effect dummies included in the analysis.
- <sup>10</sup> Another 18.8% resided in the same municipality but outside of the founders' immediate neighborhood, and the remaining 48.2% were recruited from outside of these socio-demographic settings. Since we do not know *ex ante* which group of coworkers is likely to be appointed as board members, all coworkers are considered likely to become founders' board members, irrespective of occupation.
- <sup>11</sup> Statistics Sweden denotes region of birth as the following country groups: Nordic (excluding Sweden), EU-25, non-EU Europe, North America, Asia, Africa, South America, and Australia-Oceania. Although each of these regions is aggregates of countries with distinct cultures, there are only a few immigrants from some countries. The nationality of such individuals is not reported due to ethical concerns; thus, using country groups is necessary unless our analysis is restricted to specific (larger) countries of birth. To validate the grouping of countries into regions from a diversity in national culture perspective, we computed distance metrics for each of the aforementioned regions from Sweden using the World Value Survey (WVS)'s scores for 'Traditional vs. Rational' and 'Survivalist vs. Self-Expression,' and compared these to the actual distance metrics for all specific countries from Sweden in the WVS. The results showed a clear cultural distance between Sweden and the regional categories used (Nordic being the smallest distance and Africa being the largest, with the country-group of Asia being the only exception from the WVS classification due to its size and heterogeneity). As a robustness check, we first removed all ventures with founders and/or board members from Asia, with consistent results. To account for the possibility of individuals' national culture rather being that of their parents, we report robustness tests in Online Appendix A1, in which we replaced the individual's country of birth with either parent's country of birth.
- <sup>12</sup> While founders' social ties are individually influenced by the composition of their neighborhood or workplace, new ventures' board composition is the result of mutual agreement between all founders, here defined as the average of the unique influence of each founder.
- <sup>13</sup> Ibid.
- <sup>14</sup> A more detailed illustration of this measure is provided in Online Appendix A4.
- <sup>15</sup> Hence, the tenure measure is truncated at 17 years. To ensure that this does not affect our results, we added a dummy variable in unreported models for those with 17 or more years of tenure, which did not affect the results.
- <sup>16</sup> Out of the 39,849 workplaces, only 465 (1%) have more than 500 employees; 1,177 have more than 250 employees (3%); and 3,315 (8%) have more than 100 employees.

- <sup>17</sup> We transformed the measure as described instead of taking the smallest value of the two in a dyad because in Sweden, years are correlated with age for Sweden-born (i.e., most of the data points).
- <sup>18</sup> For brevity, we refer to "director-founder dyad replication" as 'dyad replication' from now on.
- <sup>19</sup> 'e' is the mathematical constant that approximately equals 2.71.
- <sup>20</sup> Note that the absolute probability is very low since only a small fraction (0.1%) of all potential founder-coworker dyads are replicated in venture boards.
- <sup>21</sup> If neighborhoods are extended to the municipality level, over half of all directors.

## ORCID

Chanchal Balachandran  <https://orcid.org/0000-0002-7464-3506>

Timur Uman  <https://orcid.org/0000-0002-8938-2150>

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Balachandran C, Wennberg K, Uman T. National culture diversity in new venture boards: The role of founders' relational demography. *Strategic Entrepreneurship Journal*. 2019;13:410–434.  
<https://doi.org/10.1002/sej.1327>